

REMARKS

Claims 1 and 17 have been canceled without prejudice. Claims 2-6, 8, 10-13, 15, 18-20, 23, and 24 have been amended. Claims 6, 13, 20 and 24 have been amended to be in independent form and to include the features of the base claim and any intervening claims.

Claims 2-3, 5, 8, 10-11, 15 have been amended to depend from Claim 13. Claims 4 and 12, which now depend indirectly from Claim 13, have been amended for consistency with the change in dependency. Support for the further amendment to Claim 12 appears in the specification at least at: page 15, lines 16-20; page 16, lines 7-12; and in FIG. 2.

Claims 18 and 23 of been amended to depend from Claim 20. Claim 19 has been amended to depend from Claim 24.

All claim amendments are directed to a matter of form and are unrelated to patentability.

The description has been amended to properly reflect the status of the U.S. Patent Applications cited therein.

Applicants note that the title was correct in the application as filed and was incorrectly listed on the filing receipt due to a USPTO error. The title has been corrected by amendment and now reads --Chip Size Image Sensor Wirebond Package Fabrication Method--.

The sections below are numbered to correspond with the section numbering used by the Examiner in the Office Action.

3. The abstract has been shortened.

The abstract has been shortened to be within the range of 50 to 150 words. For the above reason, Applicants respectfully requested reconsideration and withdrawal of this objection.

4. Objection to the disclosure.

The paragraph extending from page 31, line 34 to page 32, line 10 has been amended to replace the attorney docket numbers with the corresponding U.S. patent application serial numbers.

For the above reason, Applicants respectfully request reconsideration and withdrawal of this objection.

5. Objection to Claim 10.

The Examiner states:

... Claim 10 is objected to because of the following informalities: "window support" should be changed to -- window support layer- to be consisted with the language used in the other claims. (Office Action, page 3.)

In response, Applicants direct the Examiner's attention to FIG. 7A and the specification at page 21, lines 16-17:

As shown in FIG. 7A, **windows 110 are mounted above active areas 104 by window supports 108.** (Emphasis added.)

Further, Applicants direct the Examiner's attention to FIG. 7B and the specification at page 22, lines 1-5:

In accordance with this alternative embodiment, a single window support layer 750 is formed on an upper, e.g., first, surface 702U of image sensor substrate 702. **Windows 110 are mounted above active areas 104 by window support layer 750 ...** (Emphasis added.)

Accordingly, Applicants respectfully submit that Claim 10 is consistent with the other claims when read in light of the specification.

For the above reason, Applicants respectfully request reconsideration and withdrawal of this objection.

6-12) Claims 2, 8, 9, 11 and 14 satisfy 35 U.S.C. 112, second paragraph.

Regarding Claim 2.

The Examiner states:

Claim 2 recites the limitation "a step up ring" in lines 1 and 2. There is insufficient antecedent basis

for this limitation in the claim. (Office Action, page 3.)

Claim 2 has been amended and now depends from Claim 13.
Claim 13 recites:

... *mounting a step up ring* above a noncritical region of said first surface between said bond pad and said active area, wherein said step up ring comprises a central aperture; ... (Emphasis added.)

Accordingly, Claim 13 contains sufficient antecedent basis for the following term of Claim 2:

... wherein **said mounting a step up ring** comprises ... (Emphasis added.)

Thus, Claim 2 satisfies 35 U.S.C. 112, second paragraph.

Regarding Claim 8.

The Examiner states:

Claim 8 recites the limitation "a step up ring" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim. (Office Action, page 3.)

Claim 8 has been amended and now depends from Claim 13.
Claim 13 recites:

... *mounting a step up ring* above a noncritical region of said first surface between said bond pad and said active area, wherein said step up ring comprises a central aperture; ... (Emphasis added.)

Accordingly, Claim 13 contains sufficient antecedent basis for the following term of Claim 8:

... wherein **said mounting a step up ring** comprises ... (Emphasis added.)

Thus, Claim 8 satisfies 35 U.S.C. 112, second paragraph.

Regarding Claim 11.

The Examiner states:

Claim 11 recites the limitation "a trace" in line 1. There is insufficient antecedent basis for this limitation in the claim. (Office Action, page 3.)

Claim 11 has been amended and now depends from Claim 13. Claim 13 recites:

... electrically connecting a trace on said step up ring to said bond pad ... (Emphasis added.)

Accordingly, Claim 13 contains sufficient antecedent basis for the following term of Claim 11:

*... wherein **said** electrically connecting a trace on said step up ring to said bond pad comprises ...* (Emphasis added.)

Thus, Claim 11 satisfies 35 U.S.C. 112, second paragraph.

Regarding Claim 14.

The Examiner states:

Claim 14 recites the limitation "a step up ring" in line 2. There is insufficient antecedent basis for this limitation in the claim. ... Claim 14 recites the limitation "a noncritical region" in line 2. There is insufficient antecedent basis for this limitation in the claim. (Office Action, pages 3-4.)

Claim 14 depends from Claim 13. Claim 13 recites:

... mounting a step up ring above a noncritical region of said first surface between said bond pad and said active area ... (Emphasis added.)

Accordingly, Claim 13 contains sufficient antecedent basis for the following term of Claim 14:

... wherein **said** mounting a step up ring above a noncritical region comprises ... (Emphasis added.)

Thus, Claim 14 satisfies 35 U.S.C. 112, second paragraph.

For the above reasons, Applicants respectfully request reconsideration and withdrawal of this rejection.

13/14) Claims 2-4, 8-10, 18-19 are novel over Glenn.

Claims 1 and 17 have been cancelled without prejudice thus obviating the rejection of these claims.

Applicants note that the Examiner cites Glenn at page 4 of the Office Action as "(U.S. 5,352,852)". However, Applicants note that U.S. 5,352,852 corresponds to Chun, issued October 4, 1994. Applicants note that Chun, U.S. 5,352,852, is properly cited by the Examiner on the PTO-892, notice of references cited.

In light of the 103(a) rejection in section 16 at page 7 of the Office Action, Applicants assume that the Examiner intended to cite Glenn as U.S. 5,867,368.

As set forth below in section 17/18, Claims 13, 20 and 24 are allowable. Claims 2-4 and 8-10, which depend from Claim 13, are allowable for at least the same reasons as Claim 13. Claim 18, which depends from Claim 20, is allowable for at least the same reasons as Claim 20. Claim 19, which depends from Claim 24, is allowable for at least the same reasons as Claim 24.

For the above reasons, Applicants respectfully request reconsideration and withdrawal of this rejection.

15/16) Claims 5, 11-12, 15-16, 23 and 25 are patentable over Glenn in view of Bigler et al and Nakamura et al.

As set forth below in section 17/18, Claims 13 and 20 are allowable. Claims 5, 11-12, 15-16, which depend from Claim 13, are allowable for at least the same reasons as Claim 13. Claims 23 and 25, which depend from Claim 20, are allowable for at least the same reasons as Claim 20

For the above reasons, Applicants respectfully request reconsideration and withdrawal of this rejection.

17/18) Allowable subject matter.

The Examiner states:

... Claim 6, 7, 13, 14, 20-22, and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. (Office Action, page 10.)

Claims 6, 13, 20 and 24 have been amended to be in independent form and to include the features of the base claim and any intervening claims. Accordingly, Claims 6, 13, 20 and 24 are allowable. Claim 7, which depends from Claim 6, is allowable for at least the same reasons as Claim 6. Claim 14, which depends from Claim 13, is allowable for at least the same reasons as Claim 13. Claims 21-22, which depend from Claim 20, are allowable for at least the same reasons as Claim 20.

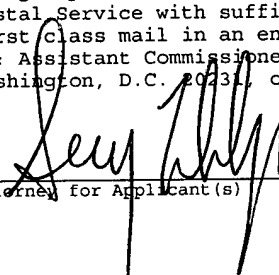
Claims 26-29 have been allowed.

CONCLUSION

Claims 2-16, 18-29 are pending in the application. For the foregoing reasons, Applicants respectfully request allowance of all pending claims. If the Examiner has any questions relating to the above, the Examiner is respectfully requested to telephone the undersigned Attorney for Applicant(s).

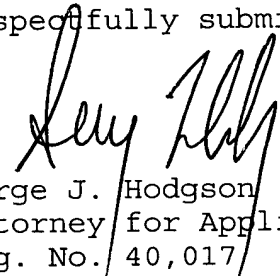
CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on January 8, 2003.


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January 8, 2003
Date of Signature

Respectfully submitted,


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